

REMARKS

In reply to the Office Action of August 19, 2004, Applicants submit the following remarks.

Claims 1-28 are pending in the application. Claims 1 and 21 are independent. Formal amendments have been made to claims 1, 2, 21, 24, and 25. No new matter has been added.

Claims 1-9, 14, 16-18, and 21-25 have been rejected as allegedly obvious over German (U.S. Patent No. 4,723,075) in view of Richardson (U.S. Patent No. 5,061,841). Applicants request withdrawal of this rejection because neither German nor Richardson, nor any combination of the two, discloses the subject matter contained in independent claims 1 or 21.

Independent claim 1 recites a system having a holder for an optical element and a motor for rotating the holder about an axis of rotation. The motor rotates the holder, such that when a laser beam impinges on an optical element mounted on the holder at a point of impingement radially separated from the axis of rotation, the point of impingement of the laser beam on the optical element is varied in a continuous circular path on the optical element as the motor rotates the holder. As explained in the application at page 3, the optical element can be rotated gradually such that different parts of the optical element are exposed to the laser beam at different times. Thus, thermal heating of the optical element and its coating is mitigated and the useful lifetime of the optical element is prolonged.

Independent claim 21 recites a method of prolonging the useful lifetime of an optical element. A laser beam is shined on the optical element at a point of impingement that is radially separated from an axis of rotation of the optical element, and the optical element is rotated about the axis of rotation. The point of impingement of the laser beam on the optical element is varied in a continuous circular path on the optical element because the point of impingement is radially separated from an axis of rotation of the optical element.

German relates to a translation mount for large optical elements, which translates an optical element vertically and horizontally. Col. 1:11-16. The translation mount of German is used to translate the center of the mirror into alignment with the center of a laser beam path, such

that the laser beam strikes the center of the optical element. Col. 1:17-20; col. 5:3-10. Therefore, German does not disclose a motor for rotating a holder such that a point of impingement of a laser on the optical element is varied. In fact, because German teaches that the mount is used to align the central axis of the mirror with the laser beam, col. 5:3-10, German teaches away from the claimed invention, in which the impingement point of the laser beam is radially separated from the central axis of the optical element.

Richardson relates to a method of controlling an arc welding process by imaging the welding arc with laser light reflected from a welding pool around the welding arc. The reflected laser light travels substantially parallel to the welding electrode, strikes a mirror that has a central aperture for the electrode to pass through, and is reflected to a detector. Abstract; col. 101:26-58. As shown in FIG. 35, when the reflected laser light beam (1532) strikes the mirror (1534), the beam is centered on a central axis of the mirror. Thus, rotation of the mirror (1532) would not vary a point of impingement of the light beam (1532) on the mirror (1534). Therefore, Richardson fails to disclose or suggest a system having a motor for rotating a holder of an optical element, such that when a laser beam impinges on an optical element mounted in the holder, a point of impingement of the laser beam on the optical element is varied.

For at least these reasons, Applicants request withdrawal of the rejection and allowance of claims 1 and 21. Claims 2-9, 14, 16-18 depend from claim 1 and are allowable for at least the reasons that claim 1 is allowable. Claims 22-25 depend from claim 21 and are allowable for at least the reasons that claim 21 is allowable.

Claims 10-13, 15, 19, 20, and 26-28 have been rejected as allegedly obvious over German (U.S. Patent No. 4,723,075) in view of Richardson (U.S. Patent No. 5,061,841) and in further view of Chen (U.S. Patent No. 6,747,735). Applicants request withdrawal of this rejection because Chen fails to cure the deficiencies of German and Richardson.

Chen relates to a method of detecting and detector for detecting a coherent Raman spectrum. See Abstract. The detector includes a dichroic mirror that transmits visible (532 nm) light and reflects infrared (1032 nm) light. Col. 12: 48-63. However, Chen fails to disclose or

Applicant : Shalei Dong et al.
Serial No. : 10/635,902
Filed : August 7, 2003
Page : 8 of 8

Attorney's Docket No.: 15540-008001 / 25 638 ;
Trumpf: 18.00356; DS08128

suggest rotating an optical element while shining a laser beam on the optical element at a point of impingement that is radially separated from the axis of rotation.

For at least these reasons, applicants request withdrawal of the rejection and allowance of claims 10-13, 15, 19, 20, which depend from independent claim 1 and claims 26-28, which depend from independent claim 21.

No fees are believed to be due at this time. Please apply any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 15540-008001.

Respectfully submitted,

Date: 11/18/04



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